# United States Department of the Interior
# Bureau of Land Management

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**FINDING OF NO SIGNIFICANT IMPACT and DECISION RECORD**

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**ENVIRONMENTAL ASSESSMENT FOR 4 BLM ALLOTMENTS**
**LOCATED IN THE**
**COW CREEK AND COW CREEK – PECOS RIVER WATERSHEDS**

**DOI-BLM-NM-F020-2012-0028-EA**

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BLM

U.S. Department of the Interior
Bureau of Land Management
Taos Field Office
226 Cruz Alta Road
Taos, New Mexico 87571
575-758-8851

# FINDING OF NO SIGNIFICANT IMPACT

***ENVIRONMENTAL ASSESSMENT FOR 4 BLM ALLOTMENTS LOCATED IN THE COW CREEK AND COW CREEK – PECOS RIVER WATERSHEDS***

***DOI-BLM-NM-F020-2012-0028-EA***

Based on the analysis of potential environmental impacts contained in the attached Environmental Assessment DOI-BLM-NM-F020-2012-0028-EA, and considering the significance criteria in 40 CFR 1508.27, I have determined that the Environmental Assessment for 4 BLM Allotments Located in the Cow Creek and Cow Creek – Pecos River Watersheds will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

_____ _____

Authorized Officer Date

# DECISION RECORD

## *ENVIRONMENTAL ASSESSMENT FOR 4 BLM ALLOTMENTS LOCATED IN THE COW CREEK AND COW CREEK – PECOS RIVER WATERSHEDS*

## *DOI-BLM-NM-F020-2012-0028-EA*

**Decision**

It is my decision to proceed with the issuance of the grazing leases for the allotments within the Cow Creek and Cow Creek – Pecos River Watersheds as described in the **Proposed Action**, Alternative B, within the Environmental Assessment DOI-BLM-NM-F020-2012-0028-EA. The allotments include: 00810 Los Gavilanes Canyon, 00904 Apache Canyon, 00943 Ox Shoe, and 00965Cow Creek. The decision incorporates by reference the terms and conditions specified in section 2.2 and Appendix 1of the EA and other terms and conditions attached to all permits and leases.

**Land Use Plan Conformance**

As discussed in section 1.3, the Proposed Action is in conformance with the 2012 Taos Resource Management Plan (RMP), which specifically provides for the management actions considered in this EA.

**Rationale for Decision**

Based upon the rangeland health functionality analysis and the findings included in the environmental assessment, the grazing leases will not cause any unnecessary or undue environmental degradation. This action sufficiently meets the purpose and need for the action in a manner which conforms to the 2012 Taos Resource Management Plan, as discussed above.

As discussed under section 5.2 of the EA, public involvement was encouraged in the preparation of the EA, including the solicitation of public comments on the allotment evaluations. However, the Taos Field Office did not receive any comments during the preparation of the documents.

**Opportunity to Appeal**

Any appeal of this decision must follow the procedures set forth in 43 CFR Part 4. Within 30 days of the Final Decision, a notice of appeal must be filed in the office of the Authorized Officer at Taos Field Office, 226 Cruz Alta Road, Taos, New Mexico 87571. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

_____ _____

Authorized Officer Date

Attachments: Environmental Assessment DOI-BLM-NM-F020-2012-0028-EA

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**ENVIRONMENTAL ASSESSMENT FOR 4 BLM ALLOTMENTS**
**LOCATED IN THE**
**COW CREEK AND COW CREEK – PECOS RIVER WATERSHEDS**

**DOI-BLM-NM-F020-2012-0028-EA**

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BLM

# ENVIRONMENTAL ASSESSMENT FOR 4 BLM ALLOTMENTS LOCATED IN THE COW CREEK AND COW CREEK – PECOS RIVER WATERSHEDS

***DOI-BLM-NM-F020-2012-0028-EA***

## Chapter 1: Introduction

### 1.1 Background

One of the major uses of public lands administered by the Bureau of Land Management (BLM) has traditionally been the grazing of domestic livestock for the benefit of individuals and communities throughout the western United States. This use is provided for and regulated by public land legislation, including the Taylor Grazing Act, the Endangered Species Act, the Federal Land Policy and Management Act, and the Public Rangelands Improvement Act.

The allotments considered in this Environmental Assessment (EA) are considered Section 15 grazing allotments. These allotments lie outside of the grazing districts established by the Taylor Grazing Act of 1934. Section 15 allotments, within the Taos Field Office (TFO), tend to be small acreages of public land within large tracts of privately owned land. All of the subject allotments are in the custodial management category. Custodial managed allotments have evidence of a "not apparent" to "upward" long term trend, have no significant resource conflicts and have a low potential for improvement in vegetative production.

This document provides information necessary to consider authorizing grazing leases within the Cow Creek and Cow Creek – Pecos River watersheds in San Miguel County, New Mexico. The subject allotments will be considered on a watershed basis to determine the collective impacts to the watershed and the effected environments therein. The allotments addressed in this environmental assessment include: 00810 Los Gavilanes Canyon, 00904 Apache Canyon, 00943 Ox Shoe, and 00965Cow Creek. Individual allotment maps are available at the TFO or can be obtained by visiting www.geocommunicator.gov.

### 1.2 Purpose and Need for Action

The purpose of this action is to provide for livestock grazing on an allotment basis in a manner that promotes healthy, sustainable rangeland ecosystems. Grazing leases on the allotments identified above are either due to expire or are having lease expiration dates adjusted to ease in management of allotments in the same watershed. Since objectives for rangeland health are appropriately applied on a watershed basis, the BLM needs to consider grazing leases on each of these allotments on a watershed basis to ensure legislative compliance and conformance with the applicable land use plan.

### 1.3 Land Use Plan Conformance and Grazing Regulations Compliance

The proposed lease renewals within this document are in conformance with the Taos Resource Area Management Plan (2012), which analyzed impacts for livestock grazing on a resource area-wide basis.

In conjunction with the Statewide Resource Management Plan Amendment and Environmental Impact Statement for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management and 43 Code of Federal Regulations 4180, an allotment evaluation (AE) document is required to determine if allotments are meeting standards and guidelines (See Appendix 4). An AE has been prepared for each allotment and is available for review at the TFO, as well as a determination document (DD) for those allotments found to be not meeting standards. Both the AE and the DD were provided for comment to the lessees and the interested public and can be obtained from the TFO. All of the subject allotments were found to be meeting standards and guidelines during 2012 assessments.

**1.4 Identification of Issues**

In January of 2012 a meeting was held with the BLM interdisciplinary team to inform them that these leases needed to be renewed and applications for grazing preference processed, and this warranted a field visit to determine if Standards and Guidelines are being met in the subject allotments. Also, a letter was sent to the affected lessees and all interested publics during February 2012 to inform them that the subject allotments were being visited to assess Standards and Guidelines. Field evaluations were conducted during the spring of 2012. The resulting AEs and DDs were provided to the affected lessee and interested publics from June 26th to July 12th 2012, for an opportunity to review and comment on the evaluations.

Based on these efforts, the following issues have been determined relevant to the analysis of this action:

**1.4.1 Wildlife**

- Potential for competition with big game for forage resources and habitat.

**1.4.2 Soils**

- Potential for livestock grazing to contribute to soil erosion.

**1.4.3 Upland Vegetation**

- Potential for livestock grazing and to impact vegetation diversity or modify vegetative structure.

**1.5 Issues considered but dismissed from analysis:**

- **Air Quality:** The Clean Air Act Amendments in 1990 required that all federal actions conform to State Implementation Plans for air quality. The subject allotments are not located in or near a non-attainment area and the action discussed will not result in air quality impairments. Releases of greenhouse gases for all alternatives will be *de minimus*.

- **Cultural Resources:** Most of the subject allotments fall within areas in which National Register eligible cultural resources are likely to be present. Periodic monitoring and review of eligible cultural resources is performed by the BLM to gauge their condition and to identify any new or cumulative adverse effects that might alter their status or condition, particularly with regard to changes in grazing activities and lease renewals. Monitoring and periodic reassessment of cultural resources located on BLM grazing leases is provided for in the current RMP along with the option to implement remedial actions (including avoidance) should such actions be required to inhibit or fully eliminate identified adverse effects. The current assessment referenced in this EA concludes that no NRHP eligible properties are, or will be, adversely affected by renewal of the subject lease agreement.

- **Native American Religious Concerns:** There have been no areas of concern identified within the subject allotments to date. All tribes within the Field Office boundary will receive further opportunities to provide information on any areas of concern in or near the subject allotments.

- **Noxious Weeds:** During visits to the subject allotments for evaluation of Standards and Guidelines, no noxious weeds were encountered within the allotments. Under BLM regulations supplemental feed is only allowed after authorization by the BLM. The TFO will only authorize certified weed free supplements as a mitigation measure for noxious weeds.

- **Riparian**: There are two riparian areas present within Allotment 0904. A small portion of the Pecos River (about 0.6 miles) and a small portion of Cow Creek (about 0.2 miles). The Pecos

River section contains thick willow bars adjacent to the stream on both sides of the river. Cow Creek has less surface flow and, therefore, a diminished riparian zone, with scattered hydrophilic vegetation along the reach. The Taos Field Office Riparian and Aquatic Habitat Management Plan (HMP) calls for Cow Creek to be managed for a grazing plan to protect the riparian habitat. Current grazing of these riparian sites has been nonexistent to light the last few years. It is determined that the proposed action and no grazing alternative will have no effect on riparian zones within the allotment.

- **Threatened or Endangered Species or BLM Sensitive Species:** Federally listed threatened (T) and endangered (E) species in San Miguel County, New Mexico, include: black-footed ferret (*Mustela nigripes*) (E); Southwestern willow flycatcher (*Empidonax traillii extimus*) (E); Holy Ghost Ipomopsis (*Ipomopsis sancti-spiritus*) (E); Arkansas river shiner (*Notropis girardi*) (T) and Mexican spotted owl (*Strix occidentalis lucida*) (T). It is determined that there are no federally listed threatened or endangered species likely to be found in the subject allotments. There is no designated critical habitat for any species listed by the U.S. Fish and Wildlife Service (USFWS) within the allotments. It is determined that the proposed action and no grazing alternative will have no effect on federally listed species, and no adverse effect on BLM Sensitive species.

  Migratory bird species of conservation concern that have the potential to occur on the allotment include golden eagle, mourning dove and killdeer. The proposed action has the potential to have a negative effect upon individual birds, eggs, young and/or the nesting habitat of ground nesting birds; however, there would be no noticeable impact to the population or to the species as a whole. The no grazing alternative could have either a beneficial or detrimental effect on individual migratory bird species of concern, depending on the response of range condition and individual species requirements, but affects at the population or species level would not be adverse.

  It is determined that the renewal of grazing on the subject allotments would have no impact on federally listed threatened or endangered species, and no adverse effect on federal proposed, candidate or BLM Sensitive species.

- **Water Quality:** The subject allotments are located in Hydrologic Unit Code (HUC) 1306000102 Cow Creek - Pecos River (222,253 acres) and 1306000101Cow Creek (81,559 acres). Of the acres within the TFO, the subject allotments comprise 1,274 acres (see Table 1). In conjunction with the United Sates Environmental Protection Agency (EPA), the New Mexico Environmental Department surveyed and evaluated perennial reaches in 2010 and identified impairments for stream reaches not meeting water quality standards for designated uses.

Table 1. Summary of BLM allotments by 10 Digit HUC by NMED evaluation unit.

| NMED Assessment Unit | Watershed | Allotments | BLM Acreage | Percent of Watershed |
|---|---|---|---|---|
| NM-2214.A_090 | 1306000101 Cow Creek | 00810, 00904, 00943, 00965 | 1,136 | 1.39% |
| NM-2213_00 | 1306000102 Cow Creek – Pecos River | 00904, 00943 | 138 | 0.06% |

The following impairments are identified for the NM-2214.A_090 assessment unit – Cow Creek (Pecos River to Bull Creek): high quality coldwater aquatic life. The cause of the impairment is due to water temperature and turbidity. Probable causes contributing to the impairment are runoff from roadways, loss of riparian habitat, streambank modification/destabilization, rangeland grazing, and watershed runoff following forest fires.

The following impairments are identified for the NM-2213_00 assessment unit – Pecos River (Tecolote Creek to Canon de Manzanita): marginal coldwater fishery. The cause of the impairment is due to sedimentation/siltation. Probable causes contributing to the impairment are loss of riparian habitat, recreational pollution sources, and rangeland grazing.

Due to the low percent of grazing allotments in the watershed and the finding in 2012 that all of the subject allotments are meeting Standards and Guidelines as mentioned in Section 1.3 and 1.4 above, it is not likely that authorized grazing leases will have an effect on the impairment. It is determined that selection of any of the alternatives will not have or create more of an impact on water quality.

## Chapter 2: Description of Alternatives

### 2.1 Alternative A: No Action

No Action would be to issue 10 year term grazing leases as outlined in Table 2. Table 2 depicts current lease information for 00810, 00904, 00943, and 00965. For additional information, refer to the allotment evaluation documents available for each allotment at the TFO. See Appendix 1 for other terms and conditions for each allotment.

Table 2. Outline of allotment guidelines for No Action

| Allotment Number | Livestock Type | Livestock Number | Season of Use | Total Federal Acres | Pastures | Grazing System | Changes to Management |
|---|---|---|---|---|---|---|---|
| 00810 | Cattle | 1 | 3/1 – 2/28 | 225 | 1 | Rotational | Conservation use for the next 1-10 years* |
| 00904 | Cattle | 13 | 3/1 – 2/28 | 937 | 1 | Rotational | Conservation use for the next 1-10 years* |
| 00943 | Cattle | 1<br>1 | 3/1 – 6/30<br>11/1-2/28 | 64 | 1 | Rotational | None |
| 00965 | Cattle | 1 | 3/1 – 2/28 | 164 | 1 | Rotational | None |
| Monitoring: BLM would continue the rangeland monitoring study program, continue to consult with the grazing lessee on placement of mineral and supplemental feed and continue monitoring for new populations of noxious weeds. | | | | | | | |
| * Conservation use allows the lessee to remove grazing from the allotment for a period up to 10 years to provide rest and recovery during periods of unfavorable climatic conditions without being in jeopardy of losing the lease due to non-use. A grazing lease would still be issued pending the findings this environmental assessment in case climatic conditions change. Conservation use must be approved by the authorized officer. Refer to 43 CFR 4130.2 (g). | | | | | | | |

### 2.2 Alternative B: Proposed Action

The Proposed Action would be to issue 10 year term grazing leases as outlined in Table 2 with the addition of a slight boundary change in allotment 00965 (see Appendix 2). The boundary change would add 33 acres of BLM lands to the allotment and follows preexisting fence boundaries and historic use. Also, avoidance measures would be implemented, on a case by case basis, if cultural resource monitoring identifies impacts to potentially eligible National Register of Historic Places Sites (Refer to Sec 1.5). For additional information, refer to the allotment evaluation documents available at the TFO. See Appendix 1 for other terms and conditions for each allotment.

### 2.3 Alternative C: No Grazing

Do not issue grazing permits for these allotments, thereby suspending livestock grazing.

**Location and Maps**

**00810** - Located approximately 0.25 miles north and south of North San Ysidro in San Miguel County, New Mexico. The allotment is located on the USGS North San Ysidro 7.5 minute series topographic map. T14N, R13E, Sec 3.

**00904** - Located approximately 3 miles southeast of North San Ysidro in San Miguel County, New Mexico. The allotment is located on the USGS North San Ysidro and San Jose 7.5 minute series topographic maps. T14N, R13E, Sec 1, 12, 13, and 23; T14N, R14E, Sec 7.

**00943** - Located approximately 4.5 miles southeast of North San Ysidro in San Miguel County, New Mexico. The allotment is located on the USGS North San Ysidro and San Jose 7.5 minute series topographic maps. T14N, R13E, Sec 25.

**00965** - Located approximately 0.25 miles north and south of North San Ysidro in San Miguel County, New Mexico. The allotment is located on the USGS North San Ysidro 7.5 minute series topographic map. T14N, R13E, Sec 3 and 4. Boundary change addition in T15N, R13E, Sec 33.

See Appendix 2 for a map of the location of the allotments. See Appendix 3 for a map of boundary change in Allotment 00965.

## Chapter 3: Affected Environment

The Cow Creek and Cow Creek – Pecos River watersheds are located in San Miguel County, New Mexico. The 4 subject allotments comprise roughly 1.42% of the watersheds that are within the TFO. Overland flow or runoff from this watershed drains into Cow Creek or the Pecos River. Topography within the subject allotments is varied; from rolling pinyon and juniper woodlands to deeply dissected canyons and arroyos. Elevation across the allotments ranges from 6,500 to 7,020 feet.

In the evaluation process field crews completed the Rangeland Health Evaluation Summary Worksheet from BLM Technical Reference 1734-6: Interpreting Indicators of Rangeland Health for all the subject allotments. The worksheet uses key indicators to qualify the attributes of rangeland health: Soil and Site Stability, Hydrologic Function, and Biotic Integrity. Each indicator is given a rating (none -slight, slight-moderate, moderate, moderate-extreme, extreme-total) based on the departure of the indicator from expected conditions. The actual worksheets are available within the allotment file at the TFO. The departure from expected conditions for each rangeland health attribute can be found in Table 3.

Table 3. Summary of rangeland health attributes by allotment

| Allotment Number | Survey Date | Soil/Site Stability | Hydrologic Function | Biotic Integrity |
|---|---|---|---|---|
| 00810 | 4/12/2012 | Slight-Moderate | Slight-Moderate | Slight-Moderate |
| 00904 | 4/12/2012 | Slight-Moderate | Slight-Moderate | Slight-Moderate |
| 00943 | 3/22/2012 | Slight-Moderate | Slight-Moderate | None-Slight |
| 00965 | 4/12/2012 | None-Slight | None-Slight | None-Slight |

The TFO uses this tool to identify rangelands that may not be meeting Standards and Guidelines in order to make management decisions to improve public land health. If an allotment or pasture falls below a moderate rating in the Soil Site Stability, Hydrologic, or Biotic Integrity attributes, and causal factors are not understood, more intensive monitoring would be established to determine the cause(s) of the low rating.

**3.1 Wildlife**

**3.1.1** The allotments are located in the Western Great Plains Shortgrass Prairie, key wildlife habitat types as identified in the Comprehensive Wildlife Conservation Strategy of the New Mexico Department of Game and Fish (2006). Much of the topography is flat to rolling plains dissected by canyons and caprock escarpments. Existing habitat within the subject allotments include; pinyon-juniper woodlands, and occasional clusters of ponderosa pine, with a perennial warm season grass savanna on the mesa tops which supports seasonal home ranges for pronghorn, elk, mule deer, mountain lion, bobcat, black bear, fox, coyote, rodents, bats, raptors, songbirds, amphibians, and a variety of insects.

**3.2 Soils**

**3.2.1** Soils in the subject allotments consist of mainly loams but a list of soils from the Natural Resource Conservation Service (NRCS) Soil Survey of San Miguel County Area, New Mexico (1981) are found below in Table 4. Soil descriptions can be found in each allotments file at the TFO within the Allotment Evaluation or in the NRCS soil survey.

Table 4. Soils found in the subject allotments by map unit.

| Soil Map Units | Allotments |
|---|---|
| Laporte-Escabosa association, hilly | 00904 |
| Laporte-Rock outcrop complex, steep | 00810. 00904, 00965 |
| Manzano loam, gently sloping | 00965 |
| Tuloso-Rock outcrop-Sombordoro association, steep | 00943, 00965 |
| Tuloso-Sombordoro-Rock outcrop complex moderately sloping | 00965 |
| Ustifluvents, frequently flooded | 00810, 00904, 00965 |
| Ustorthents-Rock outcrop complex, very steep | 00810, 00904, 00965 |
| Vibo-Ribera association, undulating | 00810, 00904, 00943, 00965 |
| Vibo-Rock outcrop complex, undulating | 00904, 00943 |

**3.3 Upland Vegetation**

**3.3.1** Vegetation descriptions for the TFO are described by vegetation categories developed by Southwest Regional Gap Analysis Project (SWReGAP). The allotments are located in the Apacherian-Chihuahuan Piedmont Semi-Desert Grassland and Steppe, Inter-Mountain Basins Mixed Salt Desert Scrub, Madrean Juniper Savanna, Rocky Mountain Lower Montane Riparian Woodland and Shrubland, Rocky Mountain Alpine-Montane Wet Meadow, Southern Rocky Mountain Juniper Woodland and Savanna, Southern Rocky Mountain Pinyon-Juniper Woodland, Western Great Plains Riparian Woodland and Shrubland, Rocky Mountain Ponderosa Pine Woodland, Western Great Plains Foothill and Piedmont Grassland, and Western Great Plains Shortgrass Prairie. Vegetation expected for the subject allotments include: pinyon, juniper, wavy leaf oak, ponderosa pine, sideoats grama, blue grama, black grama, buffalo grass, hairy grama, western wheat, galleta, Indian ricegrass, pinyon ricegrass, broom snakeweed, cholla, prickly pear, and other species in smaller amounts.

Vegetation encountered during the allotment evaluation process was mostly as described by the NRCS soil survey. However, all four of the subject allotments are being encroached upon by pinyon pine and juniper as identified in the Indicators of Rangeland Health matrix and allotment evaluation process for each allotment.

# Chapter 4: Environmental Effects

## 4.1 Direct and Indirect Effects

This chapter describes the anticipated effects on the resource issues if the alternatives are implemented. The general effects of each alternative on resource categories are addressed. Direct effects are caused by an action and occur at the same time and place. Indirect effects are caused by an action and occur later in time or farther removed in distance.

### 4.1.1 Alternative A: No Action

As described in section 2.1, the No Action alternative would be to issue grazing leases for currently authorized allotments according to current terms and conditions for each lease.

#### 4.1.1.1 Wildlife

During the evaluation process there was no evidence to show wildlife are being adversely affected by livestock grazing. Judicious grazing practices can have positive effects on wildlife and can be a beneficial management tool to increase vegetation composition and diversity, improve forage availability and quality for early to mid-successional wildlife species, create patchy habitat with high structural diversity for feeding, nesting and hiding, open up areas of dense vegetation to improve foraging areas for a variety of wildlife; remove rank, coarse grass that would encourage regrowth and improve abundance of high quality forage for wild ungulates, and improving nutritional quality of browse by stimulating plant regrowth (NMDGF 2006).

Studies in northern New Mexico have indicated that total elimination of grazing did not improve range condition on upland or lowland sites when compared with adjacent moderately grazed areas (Holechek and Stephenson 1985). Smith et al. (1996) found that lightly grazed climax rangelands and conservatively grazed late seral rangelands had similar songbird and total bird populations. They also concluded that wildlife diversity was higher on the conservatively grazed late seral than the lightly grazed climax rangeland. Studies in southeastern Arizona by Bock et al. (1984) support the hypothesis that conservatively to moderately grazed areas in mid or late seral condition supported greater diversity of wildlife than ungrazed areas in climax condition. Livestock grazing was also shown to enhance forage for elk and manage their distribution by increasing availability and nutritional value of preferred grasses in early growth stages (Holechek et al. 2004).

Livestock grazing may displace some wildlife from the allotment due to competition for habitat and forage. All of the subject allotments have rotational grazing in place; the cattle are moved to different areas within the ranch throughout the year. This practice of moving the cattle allows wildlife that may have been displaced due to livestock an opportunity to reenter the area for a portion of the year. This management style helps to mitigate conflicts between wildlife and livestock for resources.

Best management practices and adherence to the grazing guidelines would ensure that forage production within this area can support wildlife and livestock on a sustained basis. All of the subject allotments were found to be meeting grazing guidelines and standards during the allotment evaluations performed in 2012. It is expected that the reissuance of these leases as currently authorized will not have a negative impact to wildlife for the reasons stated above.

#### 4.1.1.2 Soils

Livestock may compact soil if they are allowed to congregate in one area, especially during periods when soil is wet. Usually compaction caused by livestock is localized and uncommon. None of the allotments were noted as having compacted areas during the 2012 assessments.

Livestock may also promote bare ground which leads to accelerated erosion. The BLM mitigates this impact by ensuring lessees do not exceed the mandatory terms and conditions (Season of Use, Number of Livestock, Animal Unit Months (AUMs), etc.) of their lease. Grazing guideline 1suggest to leave residual plant material to support infiltration and decrease the opportunity of wind and water erosion; this guideline is being met on all of the subject allotments.

Under current management, soil and site stability attributes for the allotments range from none-slight to slight-moderate (See Table 3). It is expected that livestock grazing on the subject allotments is not having a negative impact on soils. Implementing Alternative 1 would not increase the rate of erosion or degrade the soil's properties and resources.

#### 4.1.1.3 Upland Vegetation

Livestock may have negative impacts on vegetation if over grazing is allowed to occur. Over grazing can lead to changes in species composition and the decrease or total loss of desired species. During the evaluations in 2012 it was noted that the subject allotments receive little to slight utilization. All of the allotments are within the authorized AUMs. Because of these reasons it is determined that over grazing is not occurring on these allotments.

Under current management it has been determined that the grazing in the subject allotments is not adversely affecting the vegetation. During the AE process it was concluded that woody species encroachment is taking place in all of the subject allotments. Conditions of current vegetation within the allotments have been determined to be a result of climate and lack of wildland fire (changes in historic regime due to suppression). Fires are specifically needed in a natural regime to maintain open grasslands and savannas by killing the woody species and returning nutrients to the soil to promote establishment of herbaceous species. Changes to grazing management within these allotments would not greatly affect the natural progression of grasslands and savannas to woodlands. It is expected that Alternative A will have no noticeable effects to Upland Vegetation in these allotments.

### 4.1.2 Alternative B: Proposed Action

As outlined in section 2.2, the Proposed Action would authorize livestock grazing by renewing the leases as outlined in Table 2 with the addition of a small (33 acre) boundary change to allotment 00965.

#### 4.1.2.1 Wildlife

The environmental effects expected for the proposed action would be nearly the same as those stated in the No Action Alternative.

#### 4.1.2.2 Soils

The environmental effects expected for the proposed action would be nearly the same as those stated in the No Action Alternative.

#### 4.1.2.3 Upland Vegetation

The environmental effects expected for the proposed action would be nearly the same as those stated in the No Action Alternative.

### 4.1.3 Alternative C: No Grazing

As outlined in section 2.3, the No Grazing alternative would remove grazing from all of the subject allotments.

#### 4.1.3.1 Wildlife

Removing livestock grazing may reduce or eliminate any potential for competition with wildlife. No benefits will be seen to forage quality from grazing stimulating growth of herbaceous species. Also,

livestock watering points (wells and transported water) would not be available to wildlife if livestock were excluded.

#### 4.1.3.2 Soils

Removing livestock grazing may reduce the amount of soil erosion by removing trampling during periods with little moisture. Ground cover maybe increased to assist in soil stability because livestock would not be removing forage. Alternative C may also lead to fuel build up that would promote stand replacing wildfires instead of low severity wild fires.

#### 4.1.3.3 Upland Vegetation

Removing livestock grazing may remove stress to plants. This alternative would eliminate the removal of palatable species by livestock which may lead to rank, decadent plant health, but increased litter cover. It is expected that Pinyon and Juniper will still encroach in the subject allotments under Alternative C.

### 4.2 Cumulative Effects Analysis

A cumulative impact, as defined in 40 CFR 1508.7, is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other action.

### 4.2.1 Cumulative Actions

#### 4.2.1.1 Past and Present Actions

Livestock grazing, past and present, is only one of several possible disturbance activities within the area. Historic grazing within the TFO initiated with the majority of the livestock being sheep with very little cattle. Over time, more and more operators changed their class of livestock from sheep to cattle. Today, the TFO only has one operator that runs sheep. Grazing practices historically where very different than today. Since the 1950s, actual grazing use across the BLM has dropped over 50%. Other past and present cumulative actions within the subject allotments include: off-road vehicles use, vegetation manipulations, fuelwood gathering, recreational use, and road construction and maintenance.

#### 4.2.1.2 Reasonably Foreseeable Actions

Actions that are reasonably foreseeable include vegetation manipulations to enhance ground cover of herbaceous species, reduce encroachment from Juniper, and restore native grassland habitat. It is expected this action will benefit rangeland health and improve habitat for wildlife.

It is also foreseeable to install or build range improvements, such as fences, dirt tanks, and water wells, to improve livestock distribution, decrease possibility of trespass livestock, and assist in meeting public land health standards.

Another foreseeable action includes potential modifications to grazing leases as the result of global climate change. In 2007, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.1 to 6.4°C above 1980 to 1999 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures. It is not, however, possible at this time to predict with any certainty the causal connection of site specific emissions from the Proposed Action or any other alternatives in this EA to impacts on the global/regional climate.

Other foreseeable actions include mitigation measures to protect cultural resources if adverse effects are identified through monitoring, continued maintenance of roads, development of sites to enhance recreation, and signing to direct recreational users.

### 4.2.2 Cumulative Effects

#### 4.2.2.1 Wildlife

Any new road construction will fragment wildlife habitat. Vegetation manipulation will temporarily remove habitat, but will provide a long-term benefit of increased forage, habitat diversity, and habitat structure. Range improvements may make obstacles for wildlife, but also provided water sources and better distribution of livestock to reduce competition. Increased recreation use may discourage use by wildlife. Climate change has the ability to shift vegetation patterns which would alter habitat associations and distribution of wildlife species and, coupled with livestock grazing, the shifts may be exacerbated. These shifts should be made evident by the allotment monitoring protocols, and will be addressed if and when they occur.

#### 4.2.2.2 Soils

Direct soil disturbance caused by livestock grazing, off-road vehicle use, and vegetation manipulations may increase the amount of erosion to the soils. Indirect soil disturbance may result from vegetation and hydrologic changes caused by climate change. Increase recreation uses can lead to development of trails, roads, staging areas, and camp sites; these uses can lead to compaction and increased bare ground from trampling.

Vegetation manipulations should result in long term improvement in vegetative cover and condition, leading to reduced wind and water erosion from both direct and indirect future actions. Livestock grazing will be excluded from vegetation treatment areas for at least two growing seasons as a design feature to minimize possible adverse effects to soil stability.

Other best management practices will be used to reduce impacts form management actions. Resource condition monitoring will inform management of changes necessary to address direct and indirect effects.

#### 4.2.2.3 Upland Vegetation

Any new road construction will remove or disturb vegetation. Vegetation manipulation will temporarily remove vegetation, but will provide a long-term benefit of meeting the New Mexico Standards for Public Land Health. Climate change has the ability to shift vegetation patterns and coupled with livestock grazing the shifts may be exacerbated. These shifts should be made evident by the allotment monitoring protocols, and will be addressed if and when they occur. Range improvements and vegetation treatments will distribute livestock grazing more evenly across the allotments helping to avoid negative impacts to key areas and decrease stress on palatable species.

## Chapter 5: Consultation and Coordination

### 5.1 Summary of Consultation and Coordination

The affected lessees and the interested public were given opportunity to do site visits to the allotments, comment on the Allotment Evaluations and to comment on this Environmental Assessment. To date no comment has been made regarding the evaluation or analysis of the subject allotments.

### 5.2 Summary of Public Participation

This Environmental Assessment has been mailed to all individuals or organizations who have notified the Taos Field Office of their interest. These individuals or organizations are given 15 days to make comments on the accuracy of this document.

**5.3 List of Preparers**
This document was prepared and reviewed by a team from the Taos Field Office. They include:
Merril Dicks - Archeologist
Scott Draney - NM Department of Game and Fish
Greg Gustina - Fish Biologist
Pam Herrera-Olivas - Wildlife Biologist
Tami Torres - Outdoor Recreation Planner
Jacob Young - Range Management Specialist
Derek Trauntvein - Range Management Specialist (Lead Preparer)
Valerie Williams - Wildlife Biologist
Peter Hoagland – Forester

## Chapter 6: References

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**Appendix 1: Other Terms and Conditions**

These Terms and Conditions apply to all of the subject allotments:

In accordance with 43 CFR 4130.3-1 this permit/lease is subject to cancellation, suspension, or modification for any violation of any regulation in 43 CFR subchapter D - Range Management (4000) or any Term or Condition of this permit/lease.

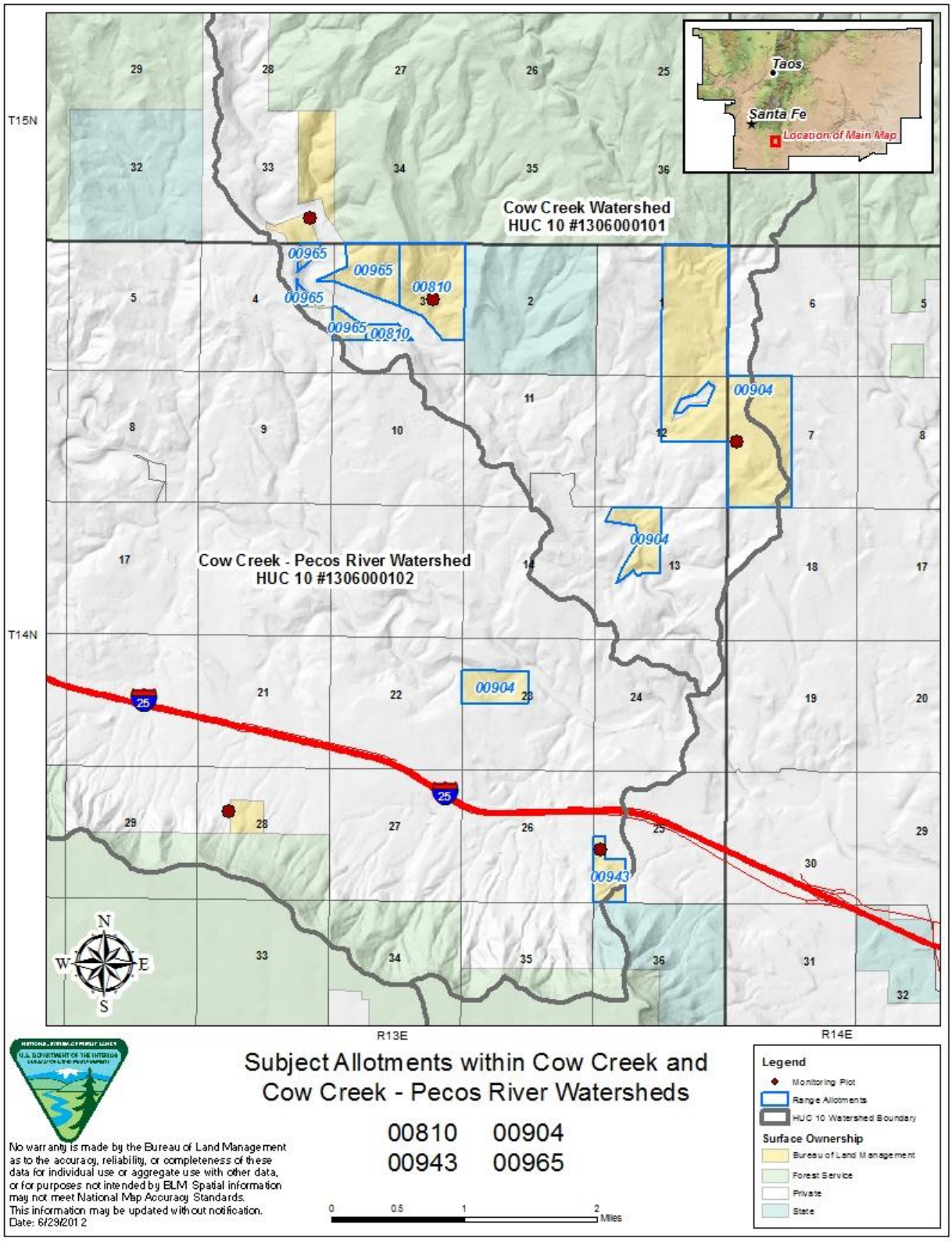
Livestock grazing may be delayed, discontinued or modified to allow for the protection of rangeland resources and values when there is a lack of plant growth as outlined in the Taos Field Office Range Readiness and Monitoring Plan for Grazing Allotments.

Improvements must be satisfactorily maintained prior to permit/lease begin date or authorization for grazing will not be issued until maintenance responsibilities are completed.

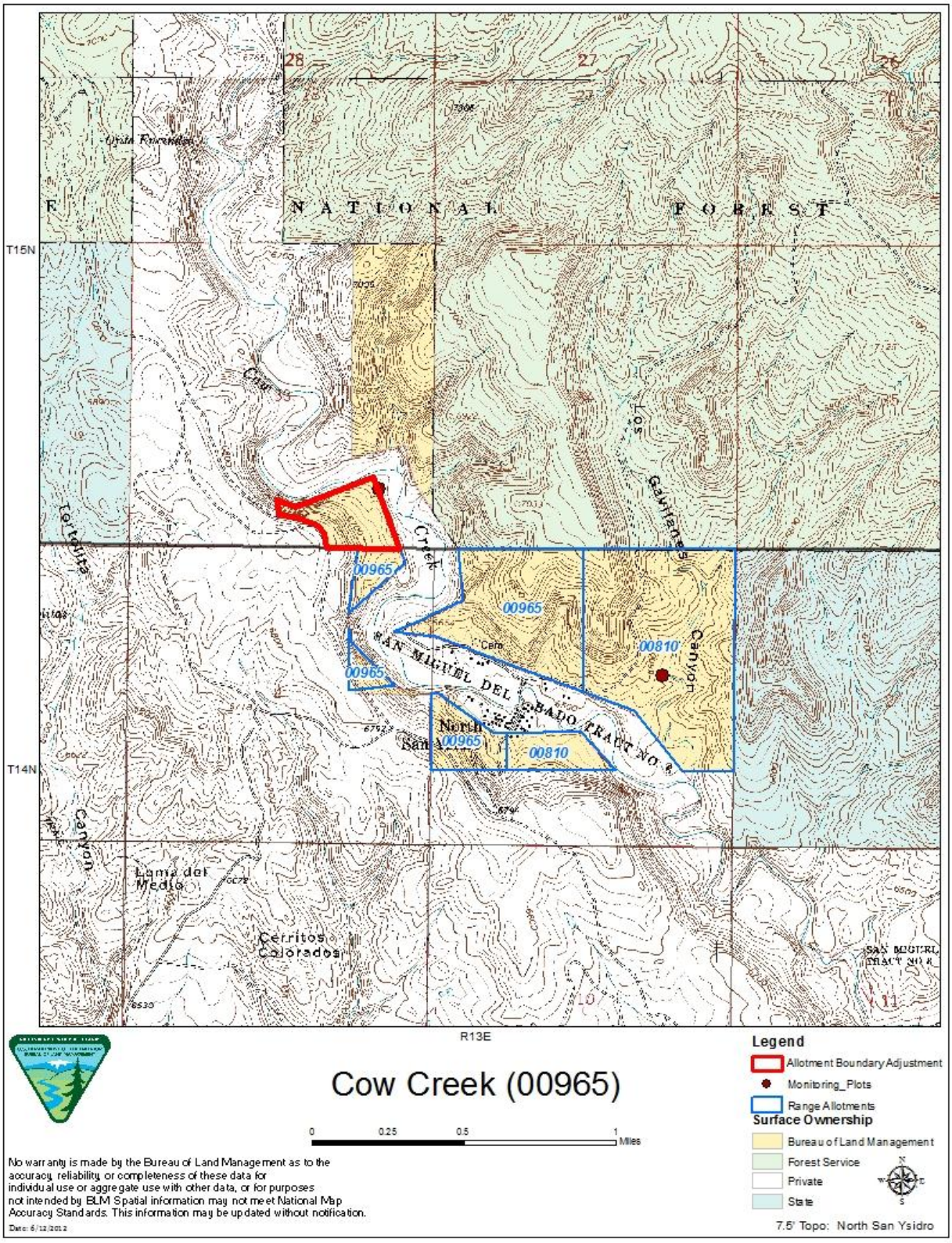
Maintain accurate actual use records detailing the dates and numbers of livestock placed on and removed from the grazing allotment(s) on a "by-pasture" basis and maintain records of the amount and type of approved supplemental feed consumed by livestock while on the allotment(s). These records are due in the Taos BLM office within 15 days of the permit/lease "off" date.

Lessee shall provide reasonable access across private and leased lands to the Bureau of Land Management for the orderly management and protection of public lands.

**Appendix 2: Map of subject allotments**



## Appendix 3: Map of boundary change in Allotment 00965



## Appendix 4. New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management

### Standards for Public Land Health

Upland Sites

***Standard:*** *Upland ecological sites are in productive and sustainable condition within the capability of the site. Upland soils are stabilized and exhibit infiltration and permeability rates that are appropriate for the soil type, climate, and landform. The kind, amount, and/or pattern of vegetation provides protection on a given site to minimize erosion and assist in meeting State and Tribal water quality standards.*

Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species

***Standard:*** *Ecological processes such as hydrologic cycle, nutrient cycle, and energy flow support productive and diverse native biotic communities, including special status, threatened, and endangered species appropriate to the site and species.*

Riparian Sites

***Standard:*** *Riparian areas are in a productive, properly functioning, and sustainable condition, within the capability of that site.*

### Guidelines for Livestock Grazing Management

*1. Livestock Grazing Management Practices (LGMPs) will promote native plant health, soil stability and micro-organisms, water quality, stream channel morphology and function, and habitat for native wildlife including special status, threatened and endangered species, by providing the following basic requirements of rangeland ecological sites:*

*(a) Allow for plant recovery and growth time;*

*(b) Allow residual vegetation on both upland and riparian sites to protect the soils from wind and water erosion, support infiltration, and soil permeability, maintain, improve or restore riparian-wetland functions including energy dissipation, sediment capture, ground water recharge, and stream bank stability, and prevent excessive evaporation;*

*(c) LGMPs include the use of livestock to:*

*(1) Integrate organic matter into the soil,*

*(2) Distribute seeds and establish seedings,*

*(3) Prune vegetation to stimulate growth,*

*(4) Enhance infiltration.*

*2. Season, duration, frequency and intensity of use should be flexible and consider climate, topography, vegetation, wildlife, kind and class of livestock when developing and implanting livestock grazing management practices.*

*3. Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function.*

*4. Give priority to rangeland improvements and land treatments that offer the best opportunity for achieving standards.*

*5. Where LGMPs alone are not likely to achieve the desired plant community (including control of noxious weeds), land management practices including, but not limited to, prescribed fire, biological, mechanical and chemical land management treatments should be utilized.*

*6. Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.*